

B.4 17 JANUARY 1973

On 17 Jan, the upper level flow formed a shallow trough over the Arabian Peninsula, as shown by the 500 mb analyses in Figures B-14 and B-16). Shamal conditions persisted in the southern Gulf, as indicated by the 30 kt northwesterly wind reported by a ship at 17/00Z (Figure B-15).

The two surface lows over Iran on 16 Jan moved eastward the next day -- one to the northeast to become centered at 42°N, 65°E at 17/00Z, and the other to the east to become centered near 33°N, 63°E at 17/00Z (Figure B-15). By 17/12Z, Figure B-17, the surface lows were positioned near 48°N, 70°E and 32°N, 68°E, respectively.

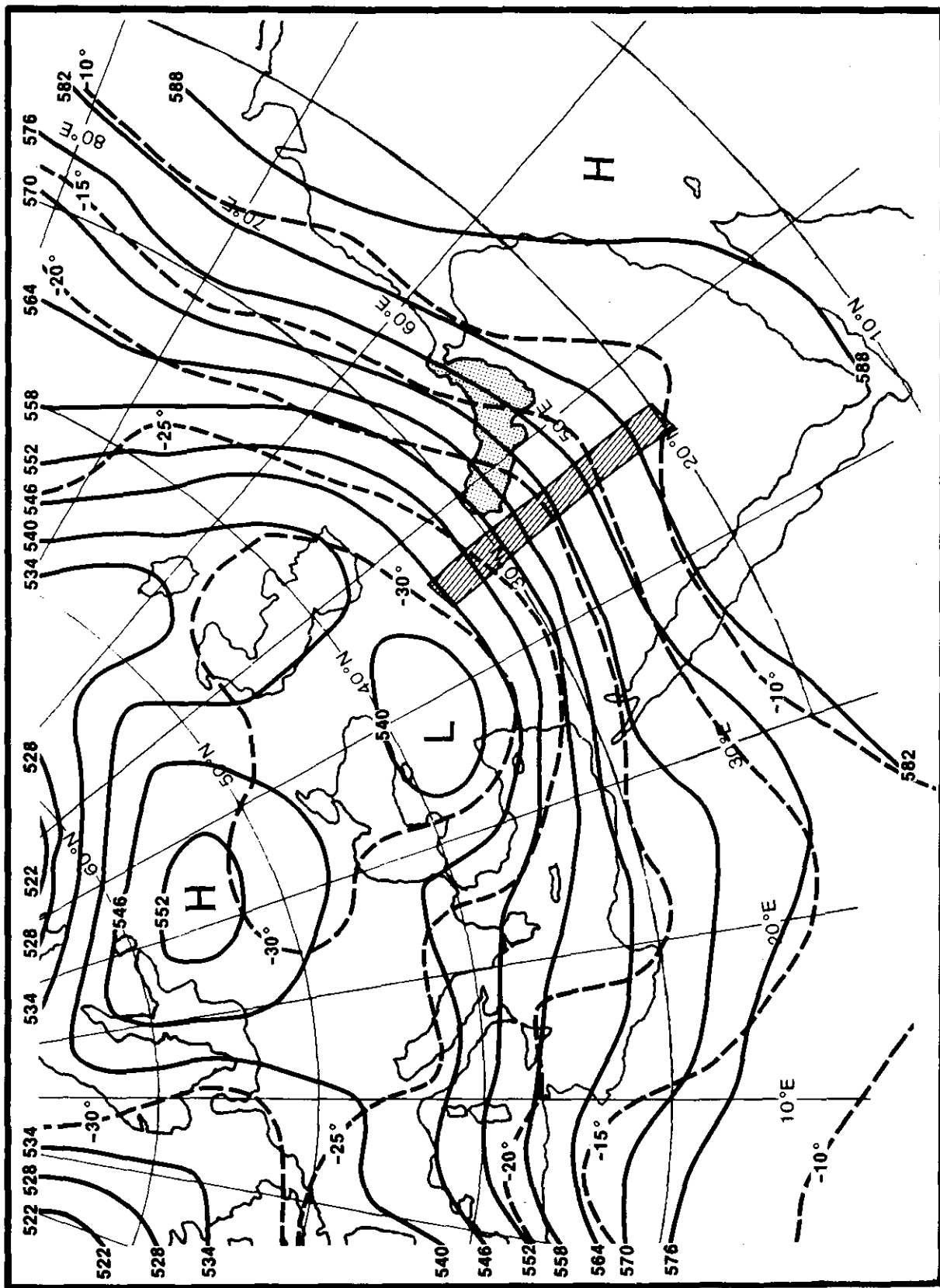


Figure B-14. 500 mb analysis, 17 Jan 1973 0000Z.

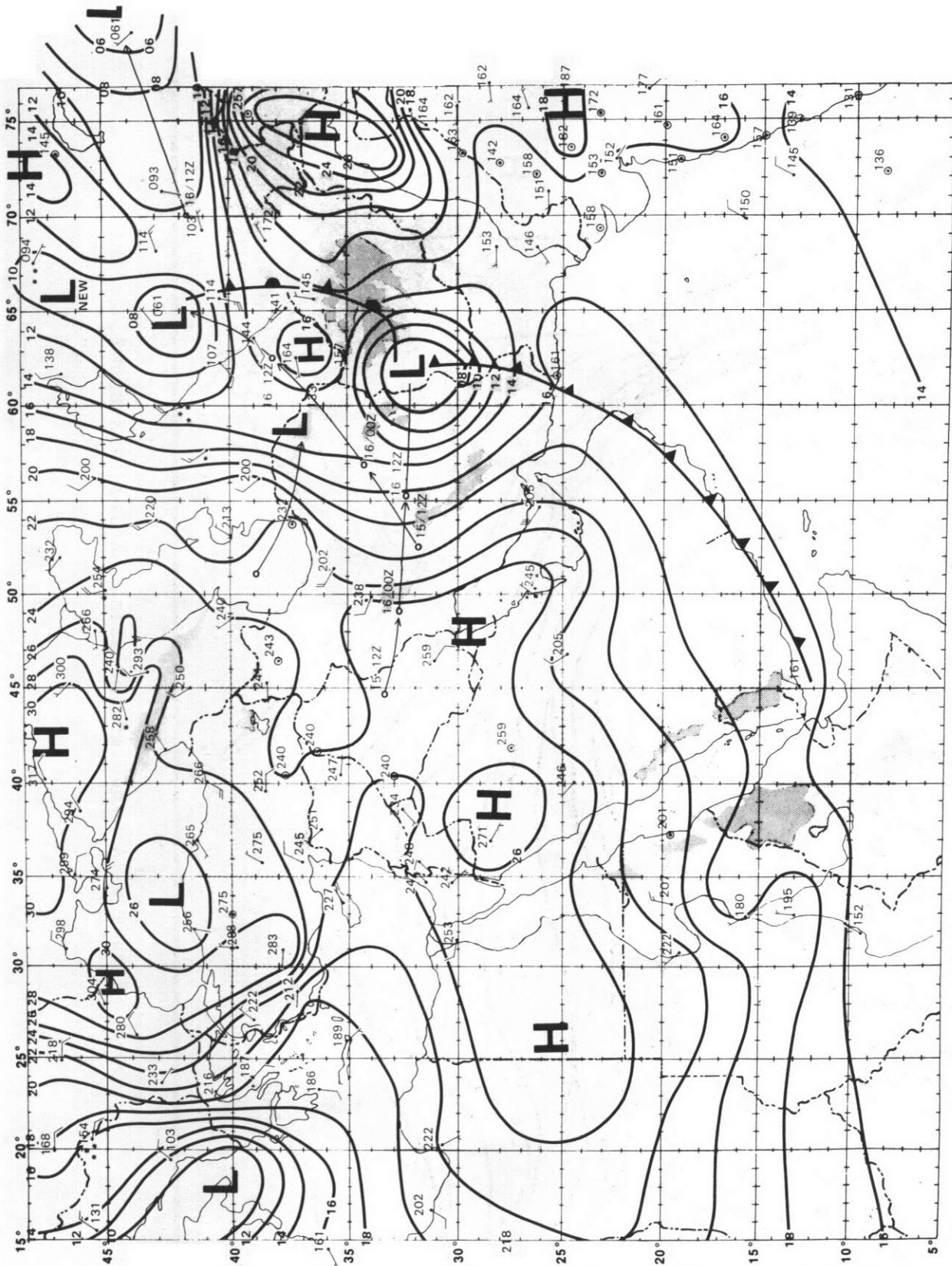


Figure B-15. Surface analysis, 17 Jan 1973 0000Z.

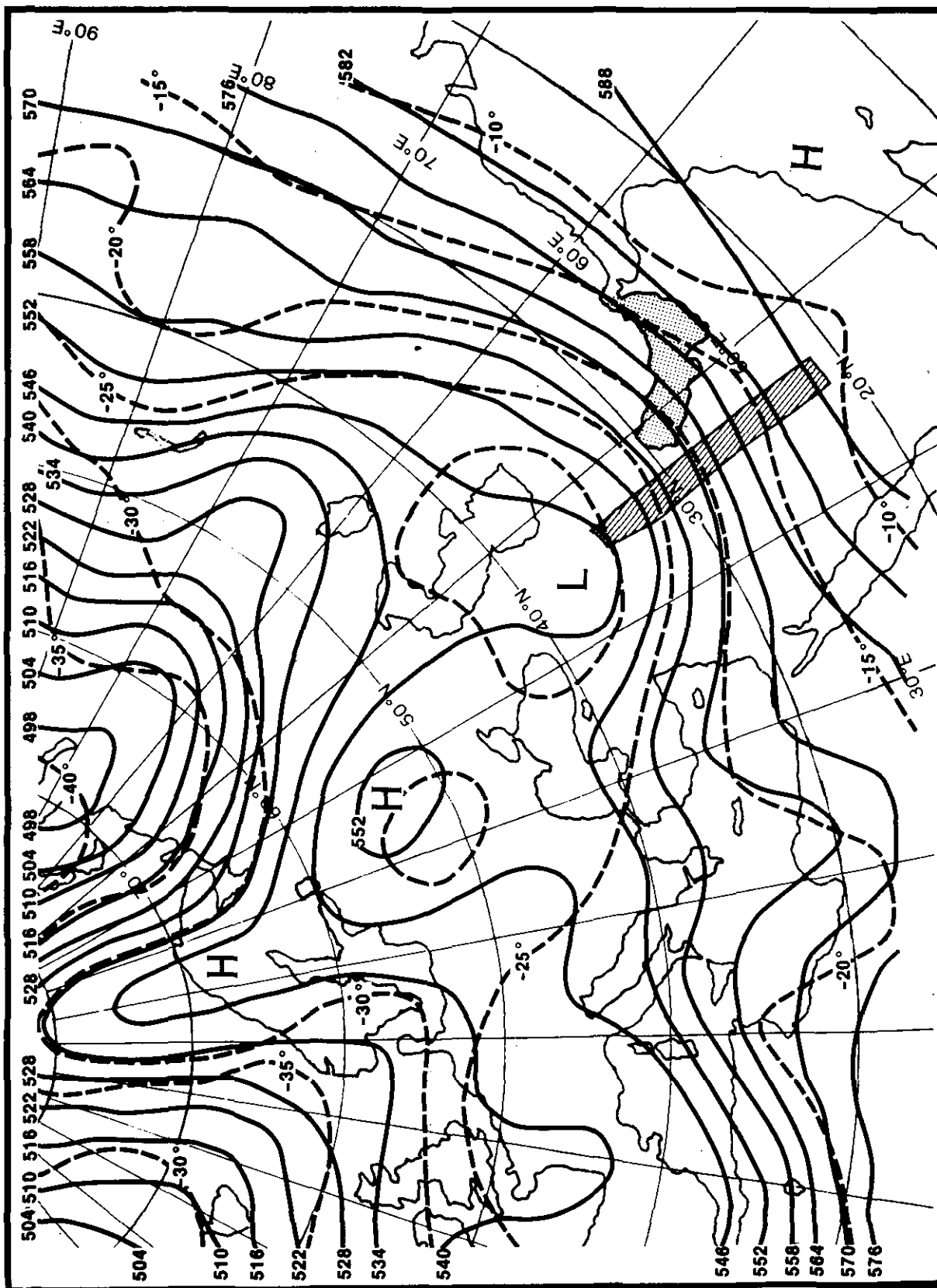


Figure B-16. 500 mb analysis, 17 Jan 1973 1200Z.

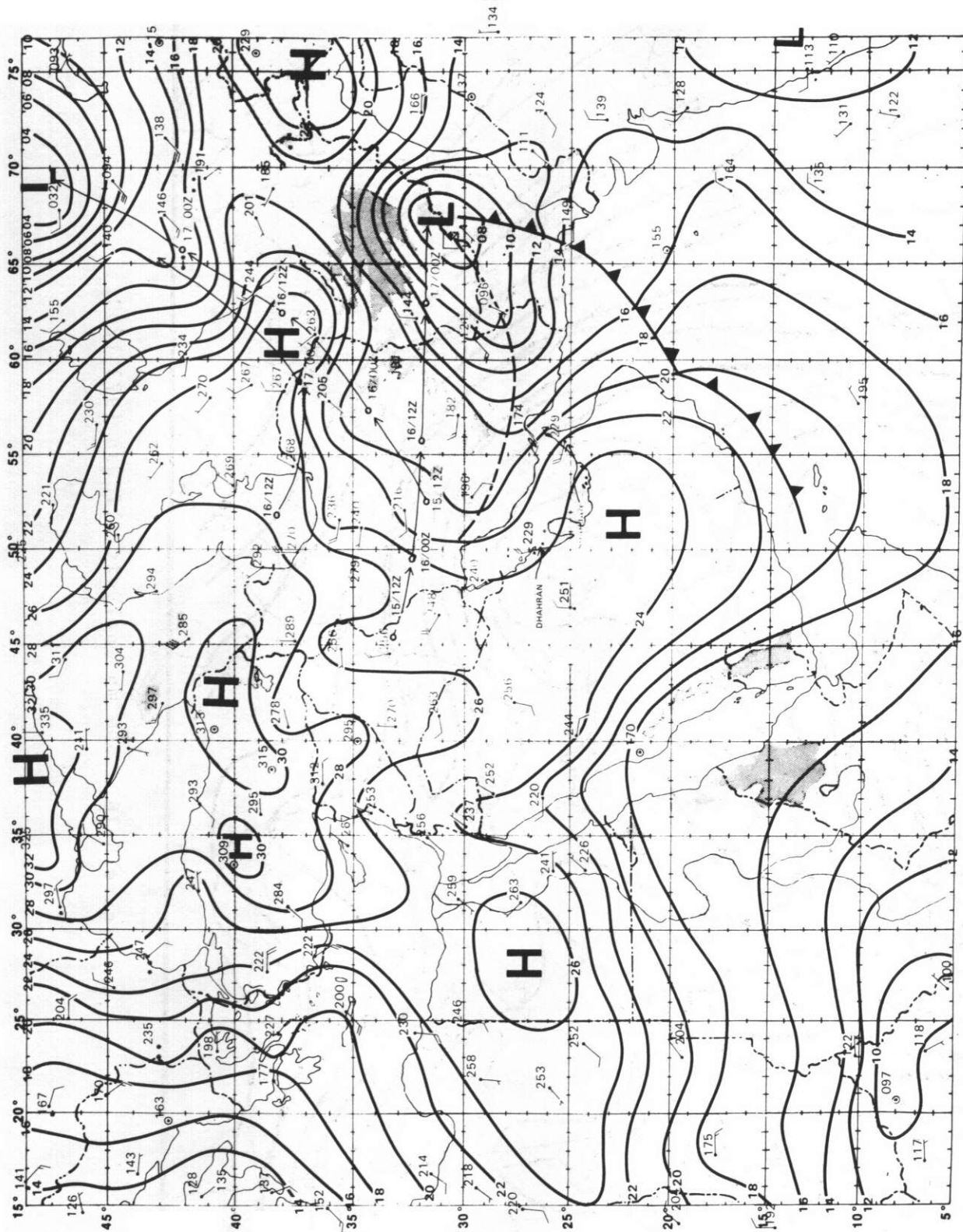


Figure B-17. Surface analysis, 17 Jan 1973 1200Z.

-- SATELLITE IMAGERY SHOWN ON NEXT FACING PAGES --

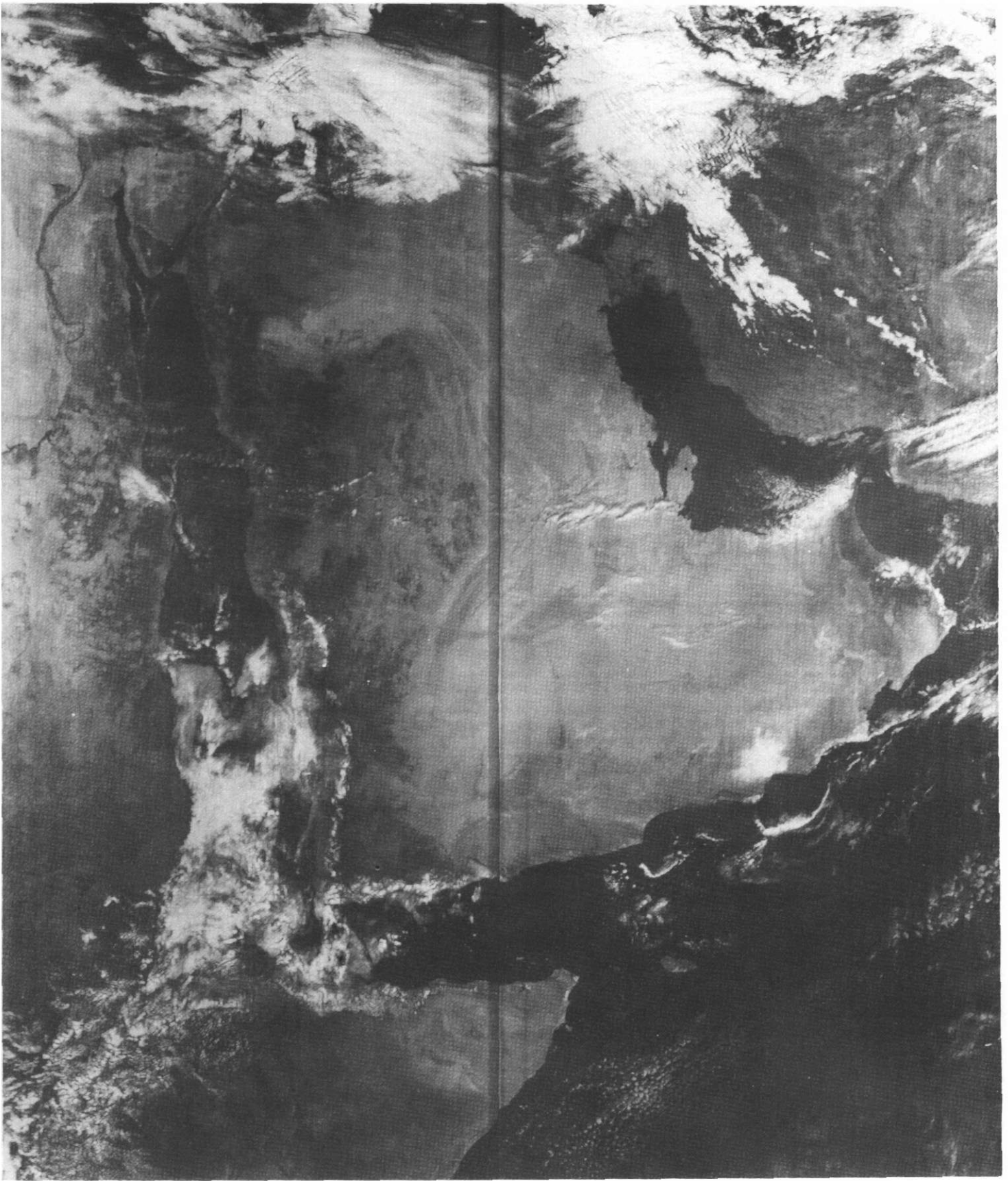


Figure B-18. DMSP visible image, 17 Jan 1973 local noon.

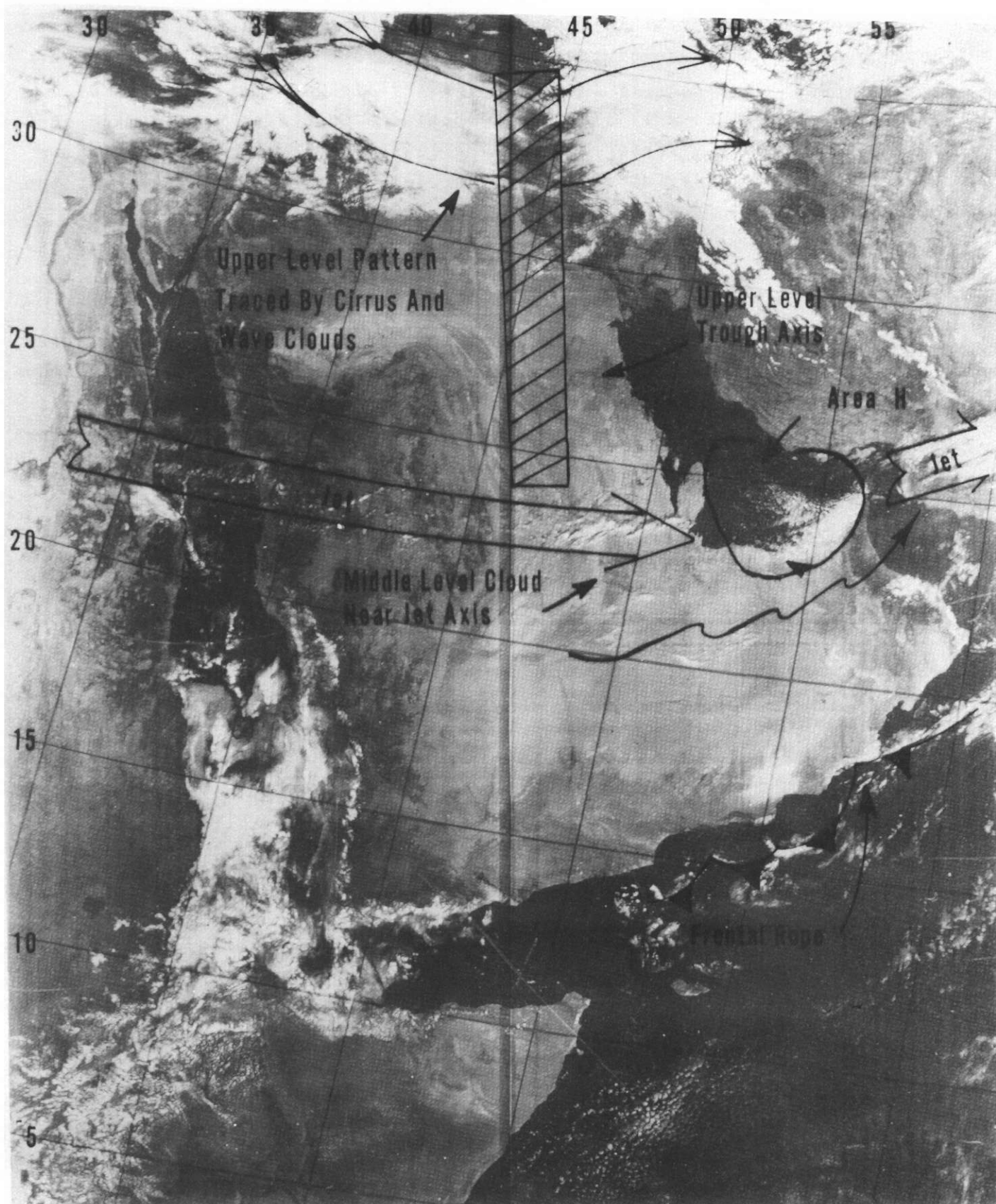


Figure B-18. Continued.

The DMSP satellite visible image for 17 Jan, Figure B-18, offers further evidence of the continuance of the shamal. The cloud pattern labeled H and aligned northwest-southeast is the typical satellite-image "signature" of a relatively cold northwesterly air stream (behind a cold front) which has been advected over relatively warmer water. The lower right portion of area H confirms the northwesterly direction of the wind. The clouds formed over the waters of the southern Gulf and were advected onto the southeastern shore.

The broad upper trough is also traced out on Figure B-18: by the cirrus pattern at the top of the image; and by the middle-level cloudiness near the jet axis across the central portion of the Arabian Peninsula.

The visible image also reveals that the elements of a frontal rope were present as the modified cold air mass over the Arabian Peninsula began to move off in the Arabian Sea. It can not be stated with certainty that this was a "cold" frontal rope, particularly in view of the probable modification of the air mass discussed in connection with the events of 16 Jan. The organized cloud line shown in Figure B-18 seems to mark a shear line boundary between the modified air advancing southeastward off the Arabian Peninsula and the resident air over the Arabian Sea. The cloud elements were to become more fully organized into a line on 18 Jan.